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CARNEGIE MAGAZINE

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VOLUME XVIII

PITTSBURGH, PA., JUNE 1944

NUMBER 3



Pitt's Army Air Force Unit, College Training Air Crew, Using the
Carnegie Institute Flagpole in Impressive Ceremony of
Retreat Held in the Schenley Park Plaza

(See Page 73)

THE CARNEGIE MAGAZINE

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VOLUME XVIII

NUMBER 3

JUNE 1944

But if you frown upon this proffer'd peace
You tempt the fury of my three attendants,
Lean famine, quartering steel, and climbing fire;
Who, in a moment, even with the earth
Shall lay your stately and air-braving towers.
—KING HENRY VI, Pt. I

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•••

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FORETELLING THE WORLD TODAY

For I dipt into the future, far as human eye
could see,
Saw the Vision of the world, and all the wonder
that would be;

Saw the heavens fill with commerce, argosies of
magic sails,
Pilots of the purple twilight, dropping down
with costly bales;

Heard the heavens fill with shouting, and there
rain'd a ghastly dew,
From the nations' airy navies grappling in the
central blue;

Far along the world-wide whisper of the south-
wind rushing warm,
With the standards of the peoples plunging thro'
the thunder-storm;

Till the war-drum throbb'd no longer, and the
battle-flags were furled
In the Parliament of man, the federation of
the world.

—TENNYSON IN "LOCKSLEY HALL"

SCHEDULE OF EXHIBITIONS

DEPARTMENT OF FINE ARTS

JUNE 7—JULY 5

"The Eight": Paintings by Robert Henri, John
Sloan, William J. Glackens, Ernest Lawson,
Maurice Prendergast, George B. Luks, Everett
Shinn, and Arthur B. Davies.
(Galleries G and H, Second Floor)

JUNE 7—JULY 16

Exhibition of Paintings by Selected Pittsburgh
Artists.
(Galleries E and F, Second Floor)

JUNE 20—JULY 18

Modern Drawings Circuited by The Museum of
Modern Art.
(Balcony of Hall of Sculpture)

CARNEGIE MUSEUM

THROUGH JULY

Pacific Area Exhibition, including four schema-
tic and pictorial maps, examples of native arts
and crafts, various primitive weapons, utensils,
art traditions, products, and so on.

DECLINING ENEMY STRENGTH

... The strength of the enemy is steadily
declining while the combined power of the United
Nations is rapidly increasing, more rapidly with
each succeeding month. There can be but one re-
sult and every resource we possess is being em-
ployed to hasten the hour of victory without un-
due sacrifice of the lives of our men.

—GEN. GEORGE C. MARSHALL
[Official Report]

RETURN ENGAGEMENT

"The Eight" Show Again at the Carnegie Institute

THE EIGHT" really had its inception in Philadelphia, where William Glackens, George Luks, Everett Shinn, and John Sloan began their professional careers as illustrators for the newspapers. They were artist-journalists to cover human interest stories, which may account for their attitude toward art and for the subject matter of many of their canvases. And then Robert Henri, after a sojourn in Europe, secured a post in 1891 in the School of Design in Philadelphia. Henri had known Glackens previously, for they shared a studio in Paris for a brief time. It was not long before Henri met the other artists who worked as illustrators on the Philadelphia press. It was in the stars that these men should eat

and drink together, criticize each other's work, and express dissatisfaction with the trends in American painting.

It was natural, too, that these artists who had so much in common should continue their association when they found themselves, as they did at the turn of the century, in New York. They were the "Newspaper School," and they were joined by Maurice Prendergast, Arthur B. Davies, and Ernest Lawson.

In 1907 the National Academy jury criticized but admitted two canvases by Henri, but rejected pictures by Luks,

Glackens, and Sloan. To express his disapproval of the rejection of the works of these men, who he believed were the most gifted young painters of the time, Henri withdrew his two canvases from the exhibition and gave vent to his indignation in no uncertain terms. The great rebellion against the estab-

lished institution and the regimentation of art was in full swing. Arthur Davies had been showing at Macbeth's, and through him William Macbeth offered his gallery for an exhibition to the group who banded together under the name of The Eight, emulating The Ten who formed to exhibit as a unit in New York in 1898. At the Macbeth Gallery, from February 3 to 15, 1908, a group of eight painters gave their first and only

show together—their names: Glackens, Luks, Henri, Sloan, Shinn, Davies, Prendergast, and Lawson. This exhibition of sixty-three paintings, put on with no great fanfare, and an unimpressive catalogue with no declaration of faith in it, shook the foundation stones of art in America. The public and the art critics were divided, but the general reaction is well put by Jerome Mellquist: "On that day the streets came into the show place, old walls were pushed back, the air was blown fresh again, and a reconsideration of many accepted standards had



PONTE DELLA PAGLIA
BY MAURICE PRENDERGAST



COASTING, CENTRAL PARK BY WILLIAM J. GLACKENS

been forced. And Realism had been introduced into twentieth-century American painting."

As has been indicated, The Eight, who were called in contempt the "Ash Can School," "Apostles of Ugliness," and the "Revolutionary Black Gang," never exhibited as a unit again. The explanation, in the words of John I. H. Baur, is: "The heterogeneity of its membership was probably the chief cause of the failure of The Eight as an organization. The delicate mysticism of Davies makes a strange companion to Henri's robust technical bravura. Impressionism in the hands of Lawson and Prendergast was given quite different meaning. Even the four newspaper artists—Luks, Glackens, Shinn, and Sloan—who constitute the most homogeneous group within The Eight, diverged rapidly from each other, as their later work in the present exhibition demonstrates. From the beginning, The Eight intended to impose no canons, to lay down no dicta. They came together in a spirit of liberalism at a moment when the progressive forces of American painting were in need of the

leadership which they provided. That it was brief in duration and quickly overshadowed by later events cannot obscure the considerable influence which it has had on one phase of our modern art."

While they formed no society or established group, the spirit of The Eight lived on, and the attack on entrenched, conservative, academic art was carried on by the indefatigable Henri, joined now

and then by others of these "Men of the Rebellion." Two years after the show at Macbeth's, Henri helped to organize a huge exhibition for which the slogan was "No Jury—No Prizes." It was to encourage the young, the obscure, the struggling, and the unknown. This show was a model for the Independents, which some of The Eight had a part in promoting, and of which William Glackens was the first president and John Sloan his successor. Arthur B. Davies was one of the organizers of the Armory Show of 1913, which introduced America to modern art. It is interesting to record that seven of The Eight were represented in the American section of that famous exhibition. And all the while Robert Henri was teaching and preaching his doctrine that the artist must go to the life about him for his material and that he had the right to choose from life whatever aspect stirred him to creative impulse. "It is not the subject that counts, but what you feel about it," he declared. It was three pupils of Henri—George Bellows, Glenn Coleman, and Guy Pène du Bois—who, with

THE CARNEGIE MAGAZINE

six of the founding members of The Eight—John Sloan, Robert Henri, William Glackens, Everett Shinn, George Luks, and Ernest Lawson—came to be known as the "New York Realists." "The Eight Men of the Rebellion," by a rather simple gesture, made history in American art.

It was a happy idea on the part of the Brooklyn Museum to reconstruct, in so far as possible, the exhibition of The Eight thirty-five years after the event. Of the original group, only two, Shinn and Sloan, are living. It is this exhibition which is now at the Carnegie Institute, and it may be added "thirty-five years after," for a slightly modified version of the original exhibition of The Eight was shown at the Carnegie Institute in March 1909.

Most of the paintings included in the present show were done in the first decade of this century; many of them hung as documents of revolt in the first exhibition. The rest—with the exception of the late examples which have been assembled for purposes of comparison—could have been in that exhibition. They were chosen to replace

pictures which were untraceable, unavailable, or of lesser quality. Sixty-two oil paintings comprise this group show, which gives at least five examples of each man's work.

At the present time the notoriety of The Eight seems hard to understand, because in retrospect their art seems to show a tinge of the sentimental realism of their precursors. William Sydney Mount and George Caleb Bingham, to mention two, had been

basically romantic, recording with gentle humor and academic correctness limited aspects of rural American life. In contrast The Eight turned to urban life with a catholic savor for all its aspects and with an earthy journalistic interest in the less idyllic sides of life in lower New York.

Today, the accomplishment of The Eight is not so much one of innovation as synthesis. They were indispensable links in the chain of American realism which had been forged by such nineteenth-century painters as Mount, Bingham, Johnson, Eakins, and Homer and later reinforced by the flourishing contemporary group of "American Scene" painters: Burchfield, Hopper, Marsh, Benton, and others. All The Eight felt the impact of European art, some under the influence of Hals and Velasquez, others drawing on the varied facets of the French Impressionist movement. They unified these elements of style, technique and, to a certain extent, content which had existed separately in American painting before 1908 and rooted them once and for all in American soil.



WAKE OF THE FERRY BY JOHN SLOAN

FIGHT FOR THE GLORY OF CARNEGIE!

*Address at the Fortieth Commencement of the
Carnegie Institute of Technology on June 30, 1944*

By WEBSTER N. JONES

Director, College of Engineering, Carnegie Institute of Technology

Fight on, my men, says Sir Andrew Barton,
I am hurt, but I am not slain;
I'll lie me down and bleed a-while,
And then I'll rise and fight againe.



I was very much pleased to be invited to have the last "say." What I hope to do is to give you some advice that may be helpful in your search for a good life. It is so easy for us deans, you know, who see hundreds of young men start off; we can give you a pat on the shoulder, and a sort of detached smile, and wish you luck, and there—our job is done! It is so easy to forget that the most dignified senior can feel even worse on Commencement Day than he felt in Freshman Week. Here he is, starting out all over again, just when he thought he was finished! He wants to do well, and he knows he can if given the chance; he doesn't want to make mistakes—and they're easy to make.

I can't speak for all deans—but I know that this is where engineering deans should have their innings. You have noticed that we don't interfere too much with your academic life. We really stand as much in awe of your professors as you do. They're smart, and they know what they're about! But we deans are pretty tough old fellows, most of us; we've battled our way in a hard and demanding profession. Now is our opportunity to give you some good, practical, down-to-

earth advice and to point out a few of the pitfalls you're going to be right up against.

You have gone through college so fast that we have had mighty little opportunity to talk together. In September 1941 we welcomed you to Carnegie Tech. Today—two and a half years later—your Commencement has arrived. In no time at all you have turned from frightened freshmen into sedate seniors. We have seen you persevere and labor, and we know that your parents have hoped and sacrificed for the degree you are now to be awarded. We are pleased with your attitude toward our progressive curricula and toward the responsibilities that rest on your shoulders. In these times of stress and chaos you have held to the mark and have now reached the goal. You can be extremely proud of your degree. Although the engineering curricula have been expedited and then super-expedited, the academic standards of our institution have not been impaired. You have fulfilled all the requirements of the regular four-year program. There is no short cut to a diploma at Carnegie Tech.

Come to think of it, I have known most of you rather intimately in one respect. Since you became eighteen, you and I together have explored the intricacies of Selective Service from coast to coast. To it I proudly surrender you so that you may fulfill your obligations to our nation. You can serve better now by reason of your technical training.

And when peace comes, you can immediately devote your energies to the mammoth reconstruction problems that will face us.

You may feel today that you have reached the top—that never again will you have to overcome assignments as difficult as the ones you had in college. If so, let me disillusion you. You have not begun to work in the manner I would have you! The learning process, whether you realize it or not, has been made easy for you. Your courses have been well planned to present a skillfully executed summary of engineering knowledge in your field. Your educational program has been directed by remote control. After today, however, you will be on your own. The journey ahead is so hazardous, so filled with problems, that you will often be dizzy!

Don't ever let me hear that a single one of you has drifted into the willful, perverse, and self-satisfied frame of mind of the engineering graduate whose thoughts run something like this: "At last, I've finished college! The sooner I forget this place the better! I'm going to take the first job that comes my way with short hours, long vacations, and a big salary, whether it's in engineering or not. I'm through with studying, so if I do go into engineering, I don't want to get mixed up in research. I'm not going to spend my money on joining a professional society, either. I'm all right just as I am."

Gentlemen, remember that you are now a part of the engineering profession. You must uphold its standards and its code of ethics. You must keep abreast of new developments in science and technology and of their impact on the social order.

I cannot advise you as I would most graduating classes. Your professional life will be automatically divided into war and postwar activities and must be so considered.

Plans have already been made for the majority of you: You are headed for the armed services or the Merchant Marine. May it be your good fortune to be as-

signed to units where you can apply your educational experience to the maximum advantage and therewith put up the best fight. Remember that we are at your command for any letters or advice that will assist you. May you all receive commissions! But if you don't, as privates you will have a lot of company, and by example you can foster the Carnegie fighting spirit among your associates.

Some few of you who are not to be called to military service have an equally important assignment. Your way is the more lonely and the less glamorous, requires firmer determination and more stamina, self-discipline instead of military discipline. You will largely be your own commander, your own captain. It is your duty to affiliate yourselves with industrial concerns that are producing the war material vitally necessary for our fighting forces—guns, planes, ships, ammunition.

I have heard that when Naples fell, one of our Carnegie Tech men, now a Lieutenant Colonel with the Army of Occupation in Naples, was awakened at his quarters in the middle of the night by a group of marching soldiers who were singing "Fight for the Glory of Carnegie" at the top of their voices. Regardless of the service you render, you have our fight song as your slogan. In war and in peace, on the home front or on the battle front, it will stand you in good stead.

The world is tense and expectant now. Every day, spurred on by patriotic fervor, men are achieving new heights. But the war will not last forever. Out of it, after victory, we want you to bring your own ideals for peacetime. We hope that you will be energetic, aggressive, ambitious, possessed with high ideals, and willing to strive for achievement. Don't lose your enthusiasm for living, for working, and for fighting.

Choose your postwar employment carefully. When you are seeking work, don't be deceived by an offer demanding an immediate reply. Take time to

consider, even if a large salary is involved. Good experience means more than money in the early stage of your career. If the concern you choose has policies to which you cannot subscribe, such as limited technical opportunities or poor advancement, don't be afraid to look for another job. You must be enthusiastic about your company.

Once you have made your choice, be as honest with your employer as you would be with your best friend. Give him the maximum of which you are capable. You are now aware of the mistakes you made in college. Profit by them. If you don't progress as fast as you think you should, look at yourself with a critical eye. Are you serving to the best of your ability? Are you working to capacity? If the situations were reversed and you were the employer, would you hire yourself? Learn to work hard, to prepare, and to wait and watch for your opportunity. Don't become discouraged when someone less efficient than yourself marries the boss's daughter and is made vice president of the company. The respect of your employer and of your associates can only be won by honest effort. This will take years of application and study. We want you to be good mentally, clean physically, and exemplary morally. Your integrity, both inside and outside your profession, is important to you as individuals, to society in general, and to engineering. Your successes, unless they are achieved honestly, will not bring honor to you or to Carnegie.

As soon as the war is over, the dearth of highly trained technical men will be one of industry's biggest worries. Even now, industrial research laboratories are greatly concerned about finding men with graduate training to carry on their postwar research programs. A director of one of our large Pittsburgh industries told me recently that he will need at least one hundred Ph.D.'s and Sc.D.'s as soon as the war is over.

How many of you have thought of doing graduate work? Four years of

undergraduate study do not qualify a man for the top-rung positions in research in chemistry and physics; the same is rapidly becoming true of engineering. In normal times, many of you would now be considering scholarships, fellowships, and assistantships for advanced study. This would be particularly true of those who had mapped out scientific careers. Graduate work, however, has been in abeyance since the beginning of the war; it will probably be so for the duration. At the close of hostilities, no field of study will be in wider demand. The engineering and scientific knowledge at our disposal must be spread to all corners of the globe. South America, our progressive neighbor, is even now planning to send hundreds of graduates to our universities for postgraduate study. Men in the service who have graduated and gone to war without industrial experience are beginning to ask how they can pursue courses to help them win a better place in the postwar struggle. More and better training for you is a sure step in industrial progress. If you lack the financial support to carry on formal graduate study, but possess the ambition to succeed, continued self-education is mandatory.

The greatest era in all history is approaching. I envy you your place in it and your opportunity to put what you have learned to the best use. At Carnegie we feel that engineering education rests on a combination of science, humanities, and social relationships rather than on the routine techniques of particular occupations or industries. Our objective is to produce educated men who will be competent engineers and scientists as well as individuals fitted to enter a complex social order—and we are able today, better than ever before, to appreciate just how complex it is. You are competent to apply the engineering method and to present the results of engineering studies; you have been trained to realize the value and the need of enlightened thought along social and economic lines; you are pre-

pared to meet the problems of the next decades, which may be far more difficult than the problems of today or of yesterday.

My own generation has raised a mountain of scientific knowledge by technical advances in the electrical, mechanical, metallurgical, chemical, transportation, communication, and construction industries. It remains for you to translate technical progress more completely into terms of widespread employment and better living. No professional men have a greater vantage point in this respect.

I cannot resist calling attention to the fact that the engineer should contribute more to better government. For the past hundred and fifty years our legislation has been left mainly in the hands of lawyers and politicians. We have not yet reached Utopia! I am not pointing my finger at the lawyer and the politician; I am really condemning the engineering educator for giving his students a false philosophy. Engineers have been taught to be concerned with improvement of machines, increased yields, appearance of products, and invention of new machines; little or no attention has been given to improvement of culture, continuous employment, balanced world production, elimination of economic strife—one of the greatest causes of war—and better government. Science and engineering have neglected art, religion, and culture and have not taken sufficient interest in producing a technical civilization where peace, happiness, and progress can reign. The opportunity is yours!

Before noon today, you will be alumni of the Carnegie Institute of Technology. It is my hope that you will appreciate what you have rightfully earned; that you will use your training, experience, and philosophy for the advancement of civilization. I pledge the support of our institution to help you gain the place in the world to which you aspire. But you must remember also that Carnegie needs your support. We ask that you remember

your alma mater as a moulder of men; that you guard her reputation as you do your own; and that wherever you go, you keep in mind that you are members of the Clan, "Fighting for the Glory of Carnegie."

INSTITUTE FLAGPOLE USED IN RETREAT

BY an arrangement between the Commanding Officer of the 2214th A. A. F. Base Unit, College Training Air Crew, stationed at the University of Pittsburgh through June 30, and the Carnegie Institute, the impressive ceremony of retreat has been held with the flagpole of the Carnegie Institute, on Forbes Street, near the Music Hall steps, every evening during the past months. The Institute flagpole was chosen for this formal ending of the soldier's work day because its flagstaff is visible from the Schenley Park plaza, where the retreat and inspection are held. The air cadets march over from the University to the drill area about five o'clock, and there follows the firing of the sunset gun, the march past of the band, and the passing in review of the student soldiers in a ceremony as thrilling as any that can be witnessed in these troublous times.

In the sixteen months that these college detachments have been stationed at the University of Pittsburgh, many thousands of young men have completed basic training and have gone to airfields for further instructions. Some are now pilots; others are bombardiers and navigators. Undoubtedly some of the early graduates are now flying over France and other important theaters of war.

These boys, with the other Army Specialized Training corps, will never be forgotten in Pittsburgh. Their singing, their precision marching, their smartness of appearance, and the pride of their spirit entitle them to a new and unique place in the military history of Pittsburgh.

INCUNABULA AND RARITIES

Seven Rare Books Presented to the Carnegie Library by Edward Duff Balken

BY VICTOR C. SHOWERS

Assistant, Reference Department, Carnegie Library of Pittsburgh



"454 A.D. Attila, king of the Huns, after the destruction of unfortunate Venice, yielded to the entreaties of Pope Leo and returned to his own kingdom; but Italy remaining boastful he invaded again in a rage,

and slew repeatedly."

The quotation above, which so forcibly reminds us of the present unhappy situation in Italy, is nevertheless taken from a book printed in Latin more than four hundred years ago. It is the ancient "Chronicon" of Eusebius, one of seven rare books presented recently to the Carnegie Library of Pittsburgh by Edward Duff Balken, the former curator of prints in the Department of Fine Arts of the Carnegie Institute and now a member of the Institute's Board of Trustees.

Eusebius Pamphili, Bishop of Caesarea, in Palestine, from A.D. 314 to 340, is known as the father of church history. His "Ecclesiastical History," which the Library has in English translation, is considered the best single source for the early history of Christianity. He was equally famous in his own time, also, for he was chosen by the Emperor Constantine to open the First Council of Nicaea.

His "Chronicon" is one of the earliest attempts to draw up a chronological table of the leading events in world history. Eusebius wrote it in Greek, but it was quickly translated into Latin by St. Jerome, whose Latin translation of the Bible, known as the Vulgate,

was the standard one for centuries. After the art of printing was developed, the "Chronicon" was brought down to date and issued in several editions. The edition given to the Library by Mr. Balken consists of 246 pages, plus an index of proper names. Printed in Paris in the year 1512, it is particularly interesting to students of typography, because it was published by Henri Estienne, founder of the most celebrated printing establishment in France.

The Renaissance, as we know, was a period of great intellectual curiosity. This curiosity led not only to important scientific and artistic experiments, but also to a painstaking consideration of the past. One of its products was a number of universal histories, of which a well-known example is the "Nuremberg Chronicle," so-called because it was first published in Nuremberg in 1493. The "Nuremberg Chronicle" was written in Latin by the German doctor and humanist, Hartmann Schedel (1440-1514). Mr. Balken's gift to the Library includes a second edition of this work, printed at Augsburg, Germany, in 1497. It makes a valued addition to the Library's small collection of incunabula, or books printed before A.D. 1500.

Perhaps the most curious of Mr. Balken's gifts is a copy of the "Thurnierbuch" of Georg Ruxner, printed at Frankfort, Germany, in 1579. Part of this thousand-page tome consists of a history and description of medieval tournaments, suitably illustrated by woodcuts, and the remainder is composed of biographical sketches of "heroes of the German nation." Apparently these sketches are none too accurate, for the leading German biographical dictionary speaks of the confusion caused in genealogical circles by

Ruxner's untruthful accounts. Of the author himself, it says, nothing is known except that he seems to have been a Bavarian.

The other four books given by Mr. Balken will be of use chiefly to the artist and art student. Two of these are A. P. F. Robert-Dumesnil's "Le

Peintre-graveur Français" in six volumes; and its sequel, Prosper de Baudicour's "Le Peintre-graveur Français Continué." These two works, which were printed in Paris between 1835 and 1871, furnish a critical catalogue of French engravings of the seventeenth and eighteenth centuries, including many by little-known artists, difficult to find elsewhere. They were designed to supplement the monumental work of Adam von Bartsch, called "Le Peintre-graveur," in twenty-two volumes, which the Art Division of the Carnegie Library fortunately already possessed.

This Art Division receives many calls for authentic portraits of noted painters, and if the painter in question happens to have lived before the invention of photography, such requests are not always easy to meet. The sixth of Mr. Balken's gifts should make the search a little less difficult, for it contains full-page contemporary engravings of 121 Renaissance painters, chiefly of the Flemish school. Published in London in 1694, its title is "The True Effigies of the Most Eminent Painters and Other

Famous Artists That Have Flourished in Europe." The editor is Sebastiano Resta, and the copy given came originally from the library of the Earl of Arran.

The title of the final book is a little misleading. It is Geoffrey Keynes' "Bibliography of William Blake," pub-

lished in a de luxe edition by the Grolier Club of New York in 1921. From this title, one might conclude that it was a mere list of writings by and about Blake. In reality, however, we have a detailed descriptive catalogue of 516 pages, replete with colored or black and white reproductions of Blake's sensitive drawings. Seldom has scholarship been made so attractive as in this bibliography, which, it is safe to say, will interest every lover of art, though he may never have heard of "Tiger! Tiger! burning bright,"

or never have read a single line of Blake's poems, or seen one of his magnificent illustrations.

William Blake is famous today not only as a poet, but also as a printer, illustrator, and engraver. Some critics consider his work in illustration finer than his original conceptions in art, but a perusal of the "Bibliography" will show that in all Blake's art there is a fusion of the highest imaginative qualities of his mind with great technical skill, making him a genius in whichever of his chosen fields he wished to work.



WILLIAM BLAKE AT HAMPSTEAD
Pencil Drawing by John Linnell, 1821
(From "A Bibliography of William Blake")

MODERNIZING A PIONEER

BY GLENDINNING KEEBLE

Director, College of Fine Arts, Carnegie Institute of Technology



IN the past year the faculty of the College of Fine Arts at the Carnegie Institute of Technology took the final step in a reorganization of its curricula that has been in progress for a good many years. Perhaps it would be more accurate to call this a "reorientation" of curricula, because the changes have been controlled by a new point of view in which precedent is subordinated to independent experience. A brief explanation of what has been done may therefore have some general interest.

The College of Fine Arts was a pioneer in its field, and, lacking other precedent at the beginning, it made the natural mistake of borrowing its methods of instruction from older cognate institutions—that is to say, from ateliers and conservatories for the technical program, from liberal arts colleges for the cultural program. As a matter of fact, our college has a relationship with its students that is significantly different from either of these. In the liberal arts college, the students may be expected to remain four years, but their major interests and aims are altogether heterogeneous and divergent because they have not adopted a specified profession. In the atelier, on the contrary, the students have a common professional purpose, but they do not ordinarily enroll for a program of fixed length and sequence. The College of Fine Arts has the advantage of both unity of purpose among its students and a fixed number of years in which to

plan its work. It should, consequently, be expected to achieve more unity and better balance of instruction than the atelier, more cohesion and sharper focus than the usual college.

On this assumption, the faculty began to ponder a better use of the four years at our disposal for professional artistic training. Any reformation, it was obvious, should begin with that part of the curriculum for which we are primarily responsible. And when we came to scrutinize this part, habit and custom put aside, we recognized that our students were going from studio to studio with very inadequate understanding of what bearing the various techniques have on one another, and that they were subjected to tiresome repetitions and bewildering contradictions in the process. The atelier system of artistic training needed revision.

Changes were made from time to time in the weight and sequence of courses; but these were merely incidental to a searching study of the opportunities open to us under our particular and rather unusual circumstances. As a result of this, we abandoned the old emphasis on this course as against that one, and resolved to consider the student's four-year experience as an organic whole, with whatever economy of effort is consistent with thoroughness, never losing sight of the ultimate purpose of preparing for success in a specific professional career.

This approach to teaching involved the surrender by each instructor of a measure of his autonomy. Each must take his share of responsibility for the entire program, rather than for his classes alone; each must adapt his personal instruction to take its appointed place in the larger pattern. The most delicate problem was to accomplish

this purpose without weakening the instructor's initiative and spontaneity. If the new plan had been adopted arbitrarily, it would doubtless have taken the life out of our teaching. By progressing cautiously, however, step by step, as new opportunities and advantages were found in teamwork, the instructors found in the new organization of instruction increased incentive and enrichment, rather than the restraint of conformity.

In the fall of 1941, believing that our principles had been sufficiently tested so far as the technical part of the program was concerned, we moved to apply them to the program as a whole. Our duty to the students, after all, does not stop at preparing them for a profession. A committee composed of Professors Wilfred A. Readie (chairman), Henry F.

Boettcher (secretary), Susan T. Canfield, and W. F. Hitchens, keeping in close touch with their respective departmental faculties, gave considerable time and thought through the fall and winter to a thorough, unbiased study of the question: "Knowing that we are dealing specifically with young artists, and knowing that approximately one-third of their schedule for four years is given to nontechnical studies, what is the most fruitful use we can make of that time?" The architects, with their engineering affiliations, had already found the

answer in the Social Relations Program. For the other departments, the committee, in an admirable report, answered with a proposal for a highly original program of nontechnical studies. This proposal, which was unanimously adopted by the arts faculty, aims to exploit the capacities and to correct the limitations of the typical art student, as well as to provide a complement to his particular kind of professional training. It hopes to widen the horizon of our young artists, to reduce their prejudices and multiply their enthusiasms, to link intellectual and practical interests with their creative endeavors, and, finally, to integrate them with society and equip them to take an effective part in the difficult world which this generation must face.

We had hitherto depended upon stand-

ard academic subjects that in themselves were very desirable; but their variety tended to dissipate the student's attention and interest, especially as he was strongly preoccupied with the technical and theoretical work of his chosen profession and often was unable to see what purpose these other subjects served in his training. In the new program a single course was outlined for each of the first three college years, each weighty enough to bear competition with professional interests and flexible enough to include a wide range of material.



A DOORWAY IN
THE COLLEGE OF FINE ARTS

It would be tedious to describe the courses in any detail. Their purport is sufficiently clear in the rather ponderous titles that have been given them: "Thought and Expression" in the freshman year, "The Arts and Civilization" in the sophomore, and "Individual and Social Psychology" in the junior. There is an implied emphasis on English in the first, on history in the second, on economics and politics, as well as psychology, in the last.

The organization and administration of the program is perhaps of greater interest.

For each course there is a committee formed of representatives of the different art faculties which meets with the instructors responsible for it, ready to suggest material that will be of special interest and usefulness to the students, and ready also to integrate the nontechnical with the technical work wherever possible. Through being generally scheduled for every day, the courses acquire momentum, and through a liberal provision for conference hours and small discussion groups they gain a personal significance for the individual students.

The program only became fully operative this year, and it is impossible to say with any finality what it is accomplishing. In its nature it is very flexible, and the experience of year after year will doubtless give it ever increasing richness and intensity. We were more fortunate than could have been expected in acquiring for it at the outset instructors who were sympathetic, adventuresome, and gifted. It promises to bring results beyond our highest hopes.

A GOOD BOOK

As well almost kill a man as kill a good book; who kills a man kills a reasonable creature, God's image; but he who destroys a good book kills reason itself, kills the image of God, as it were, in the eye. Many a man lives a burden to the earth; but a good book is the precious life-blood of a master spirit, embalmed and treasured up on purpose to a life beyond life.

—JOHN MILTON

FREE ORGAN RECITALS DURING THE PAST SEASON

THE past season of free organ recitals in the Carnegie Music Hall—the forty-ninth since their inauguration by Andrew Carnegie—bears out the words of President Roosevelt: "The inspiration of great music can help to inspire a fervor for the spiritual values in our way of life; and thus to strengthen democracy against those forces which would subjugate and enthrall mankind." It would indeed be a source of gratification to our generous founder to know that in times such as these, as in other troublous periods, the free organ recitals are taking their place in building the morale of the American people for whom he has done so much.

It is only natural that the music played at these recitals should reflect, to some degree, the war psychology. There is a great surge of interest in patriotic music, in the national anthems of our allies in this struggle, and in the war songs that reflect the battle against slavery and tyranny. To meet this demand, Dr. Marshall Bidwell, Organist and Director of Music at the Carnegie Institute, made a feature of playing the national anthems of thirty-six of the United Nations and their allies. In addition, a lecture was given during the past season on "Some Famous National Anthems." In the preceding season Dr. Bidwell placed special emphasis on American music; this season the programs took on a more international aspect, with foreign and native composers all represented.

A study of the programs from October on will show that the organist has kept constantly in mind the broad purpose of Mr. Carnegie in giving this great organ and beautiful Music Hall: that the people of this city might come into contact with beautiful music through the medium of these free organ recitals. The great masterpieces are intermingled with the less profound, since it is music's aim at a time like this to administer to all needs.



THE GARDEN OF GOLD



SINCE this is to be the last issue of the **CARNegie MAGAZINE** until September 1944, it is pleasing to have such a splendid total of contributions from alumni and friends to acknowledge for the Carnegie Institute of Technology 1946 Endowment Fund at this time. Gifts and pledges this month amount to \$59,285.50 and make a grand total received and pledged of \$2,467,600.39.

With only two years to go, however, we are still a long way from our goal of \$4,000,000. This sum must be raised by June 30, 1946, if the Carnegie Institute of Technology is to receive two dollars for each one dollar gift, or \$8,000,000, from the Carnegie Corporation of New York. At this time the Buhl Foundation agreement to give a dollar to the Endowment Fund for every dollar given by others up to a total of \$333,333 seems nearer attainment; for since June 24, 1943, when this most generous proposition was made, contributions and promises in the total amount of \$163,892.68 have come in. This sum is eligible for both agreements and should make alumni and friends of Carnegie Tech who have not yet made their contributions or pledges stop and think. Where else but under such agreements as these could one dollar be made into six with all the possibility for future usefulness which its donor has here?

This month we have the extreme pleasure of announcing that the following members of the Retail Merchants Association of Pittsburgh have pledged a joint contribution of \$40,000 to the Carnegie Institute of Technology 1946 Endowment Fund: Frank & Seder, Gimbel Brothers, Joseph Horne Company, Kaufmann Department Stores, Inc., and the Rosenbaum Company. Under the present setup of matching gifts, this very generous sum will reach the grand total in 1946 of \$240,000!

Another important gift to be ac-

knowledgeed this month is an additional one from Gilmore L. Tilbrook, class of 1915, of \$11,250. This amount, with his previous contribution of \$12,500 and that of Mrs. Tilbrook for \$1,250, makes a total of \$25,000. The purpose of the first Tilbrook gift was to build a memorial room or alcove in the projected new library, which will serve not only as a museum of aviation, containing small plane models indicating the progress of this science, with other materials and documents of historical importance on aviation, but which will also contain a collection of books on the subject. As an integral part of the future library building, this gift is included, under the agreement with the Corporation, in the one third of the amount raised which may be in buildings on the campus; and it is to be known as the James Franklin Tilbrook Aviation Library and Museum, in memory of Mr. Tilbrook's father, who was interested in Carnegie Tech from its inception. Mr. Tilbrook's second contribution—\$11,250 for the general endowment fund—will serve to establish a Tilbrook Aviation Book and Publication Fund, the income from which is to be used for the printed matter for the memorial room. The donors' long interest in aviation and their confidence in the great influence that it will have on the postwar world suggested the memorial.

The William E. Mott Scholarship Fund is the recipient this month of \$2,000, a further contribution from the creator of this fund, a former engineering student who wishes to remain anonymous. This donor, whose fund will provide scholarships for the sons and daughters of Carnegie Tech alumni, has up to the present time given a total of \$6,000 to the 1946 Endowment Fund.

Dr. Charles C. Leeds, Professor Emeritus of the Management Engineer-

ing Department at Carnegie Tech, has sent in a check for \$1,500 for the establishment of a Management Engineering Research Fund—a special earmarked fund within the 1946 Endowment Fund. This generous gift for the support of research work in the specific field of his department again indicates the interest of individual faculty members of Tech in the future of that great school. Professor Leeds' contribution will, of course, draw an additional \$1,500 from the amount offered by the Buhl Foundation, making \$3,000; and this sum will in 1946 draw an additional \$6,000 from the Carnegie Corporation of New York, making a total of \$9,000.

Another generous gift to the Endowment Fund is one for \$700 from the Hall Laboratories, Inc., of Pittsburgh, who do chemical research on water. This amount is a contribution to the Chemistry Department Research Fund, a fund that has also been the recipient of \$346 in other contributions this month, which came from Walter G. Berl, George B. Ecke, Mrs. Gertrude Baton Farris, Leonard W. Himes, John J. Keilen, Jr., B. L. Schwartz, H. F. Schwarz, U. A. Whitaker, and several anonymous donors. Dr. Berl's contribution of \$100 represents the Young Author's Prize from the Electrochemical Society, Inc., which he received for his publication, *A Reversible Oxygen Electrode*, and immediately turned over to the Endowment Fund, designated for the Chemistry Research Fund.

The William L. Marks Memorial Scholarship Fund, established by the alumni in 1942 to provide scholarships for men students, has received \$500 from Barton R. Biever, a graduate of the College of Industries, as well as \$5 from Ensign Julia M. Potter.

The Class of 1917 Engineering Scholarship Fund has been increased this month in the sum of \$100 from Alfred M. Staehle, and also with \$47 from other friends of the fund, including Max Albert, Walton M. Dallas, Emerson D. Gerhardt, Anthony J. Kerin, and F. J. Staudt.

Two gifts of \$100 each, one from William W. Macalpine and the other from Mr. and Mrs. E. H. Grotcend—plus \$25 from Edward J. Morris, \$5 from Capt. Charles I. Beard, and \$3 from Joseph J. Dunn—have given impetus to the John H. Leete Memorial Scholarship Fund, set up recently with \$2,000 from an alumnus, Charles R. Holzworth.

Another comparatively recent fund, the Clifford B. Connelley Memorial, inaugurated by Martin F. Murphy, Jr., in October 1943, is again this month the recipient of \$100 from its creator. Gifts of \$5 from Harry O. Waechter and of \$10 from Nathan Leebov have also been received for this fund.

Various other funds have also received contributions from alumni since the last issue of the CARNEGIE MAGAZINE. The Printers' Scholarship Fund has been augmented by a \$25 War Bond from William M. McNeill, as well as by \$5 from Lt. Ralph N. Ives and \$2 from John D. Andrews. The Mary Louise Brown Graham Memorial has received \$25 from Mrs. Mary Quick Sylvester; the Drama Fund has received \$10 from Marvin D. Einhorn and \$5 from Ruth Perrott; and the Fine Arts Aid Fund has been augmented by \$71 from Ellen Van der Voort Becker, Aneita J. DeMarkus, Jean Marie McGirr, Lt. Ross McKeever, Hilda M. Schuster, and Wanda R. Warren.

The Hower Memorial Fund, for books in the Physics Section of the proposed library, is a popular fund with alumni. This month it is larger by \$45, contributed by William M. Danner, Mr. and Mrs. Alan S. Dodds, William M. Eichleay, H. W. Hartman, Mr. and Mrs. Frank J. Kish, and Charles A. Watkins.

Victor Mead Saudek has sent in a \$100 War Bond for the Lynn Patterson Memorial; the Crabtree Memorial has received \$10 from Joseph A. Spoerlein and \$5 from Earl S. Greiner; \$20 has come in from Major Henry W. Kachel, Mrs. Martha Suter Smith, and Mrs. Mary Patterson Snyder for the Alumni Fund for Greater Interest in Govern-

ment; and \$25 for the Jane Fales Memorial Scholarship Fund has been sent in by Mrs. R. J. Foster, Mrs. H. J. Graham, Mrs. Frances Graham Nevin, and Mrs. Martha Suter Smith.

The George H. Smith Memorial Fund, established in 1914 in honor of the first president of the general alumni association, is the recipient of \$100 from Edward F. Morgan and \$5 from Lester R. Smith; the Frances Camp Parry Memorial Book Fund has been augmented by \$50 from Anna Loomis McCandless, as well as by gifts from Mrs. Fay T. Bear, Mrs. Gertrude Baton Farris, Mrs. W. W. Ford, Mrs. Helen B. Galleher, Helen M. Savard, Rebekah Shuman, and Ruth E. Welty, amounting to \$30. The Secretarial Scholarship Fund was not forgotten, receiving \$59 from Mrs. Janet M. Fugassi, Hilda Lieberman, Claramae Mackey, Lt. Nancy McKenna, Mrs. Justus L. Mulert, Mrs. Charles Nicklaus, Dorothy Pritchard, Mrs. Martha Fuller Schove, Ensign Margaret S. Stroud, and Mrs. Helen Armstrong Wilhelm.

The faculty of Carnegie Tech, through the Faculty Memorial Student Loan Fund, have contributed \$20 to the Endowment in memory of Professor Harvey C. Hicks.

The general endowment fund also received numerous gifts this month, for many alumni do not specify a purpose for their contributions. E. Edwin Bankson leads this group with a gift of \$100, and a total sum of \$359 has come from the following:

George C. Anderson, Jr., Alfred M. Anisman, W. F. Applegate, John Babin, James A. Barber, Charles E. Beedle, William L. Bell, Mrs. Bertha O. Boyle, Joseph C. Bronson, William J. Brown, H. L. Bunker, Paul Caldwell, Jr., Wilbur Carl, John C. Cochrane, Wilda J. Cook, Mrs. Esther Topp Edmonds, William M. Eichleay, James H. Franz, Irwin W. Fritz, Richard M. Galbreath, Addison L. Gilmore, Robert Gruen, W. S. Hamilton, Carlton E. Hunter, Richard B. Kameron, Mrs. J. W. Lindsay, Mr. and Mrs. Leonard E. Link,

J. Kenneth W. Macalpine, Edward C. Marshall, Mr. and Mrs. James M. Moore, A. E. Moredock, Fred M. Morris, Lt. C. W. Oettinger, Mrs. E. G. Oppenheimer, Robert W. Ortmiller, Ellis Robertson, John L. Ross, Clarence R. Rupp, Leonard W. Rusiewicz, A. David Scheinman, Lt. (j.g.) Mary E. Schlayer, L. D. Sharove, E. M. Simons, Sue F. Smith, Dorothea E. Steinmacher, Ruth A. Tejan, Mr. and Mrs. D. L. Trautman, Robert H. Watt, Richard K. Yardumian.

The general endowment fund, which perhaps does not carry with it the sentimental interest that an especially created fund does, is nevertheless the basis of the Institute's life. Gifts to it, which might for the moment appear to be lost in their co-mingling with the other funds of Tech, are essential and, of course, will bring with them the two dollars for one dollar promise from the Carnegie Corporation and will be used to serve all the many activities of Tech.

In this connection, perhaps it would be of interest to donors to know the rule recently adopted by the Executive Committee of the Board of Trustees relative to funds set up for special purposes. Stating that in the future the special purpose of the fund must first be approved by the administrative authorities at Tech, it makes clear also that in the case that such a new fund does not reach the sum of \$1,000 in five years' time, its total would be added to the general endowment fund. This, for the very obvious reason that it is difficult to administer small funds for special purposes. If the new fund does have to be put into the general endowment, however, the Committee has said that it will be used for a purpose as near the donor's wish as possible.

SUCCESS FOLLOWS WORK

All growth depends upon activity. There is no development physically or intellectually without effort, and effort means work. Work is not a curse; it is the prerogative of intelligence, the only means to manhood, and the measure of civilization.

—CALVIN COOLIDGE

WILL YOU WALK INTO MY QUARRY?

By DAVID M. SEAMAN

Assistant Curator of Mineralogy, Carnegie Museum

MANY of us have observed nature's beauty spots at various times, principally during vacations. Under normal conditions Americans travel miles every summer to see our national parks and monuments, and other special points of interest. Most of us have seen the changing cloud effects of a fine summer's day, the color of the autumn leaves, the sparkling beauty of a swift mountain stream, the rugged majesty of a mountain, the green of a forest, a beautiful lake, waterfall, canyon, or cave, the colors of our many birds, butterflies, and flowers. But comparatively few have seen the natural beauty in minerals. These minerals, as they occur in nature, seem to be known only to specialists—such as the mineralogist, geologist, mining engineer, mineral collector, and boy or girl scout—with most of the rest of us having seen them only as the finished product of man's artistic skill.

We are all familiar with those minerals and rocks which, because of their pleasing color, durability, or other physical and optical properties, are cut and fashioned for jewelry and as ornaments to beautify our monuments, public buildings, and homes. The massive serpentine marble columns in the Carnegie Music Hall, for instance, have been seen and admired by many Pittsburghers at one time or another. Women are also familiar with the colors of clothing materials that have been named for some beautiful mineral, as emerald green, sulphur yellow, ruby red, sapphire blue, and so on.

Where may we find and see some of these beautiful minerals in their natural occurrence? Let me take you on a Carnegie Museum collecting trip to a lithium pegmatite quarry on Black Mountain at Rumford, Maine, which

my wife and I made while on vacation, on a hot August day in 1941. You must be prepared for a difficult hike from the foot of the mountain up to the quarry, a distance of a mile and a quarter. We must go up a thirty per cent grade, which reaches fifty per cent along some stretches of the trail. This trail can be climbed otherwise only by caterpillar tractor, used by the miners to transport their equipment of drills, blasting powder, and so forth, and also to carry down the mica—the commercial mineral for which the quarry is worked. Stout shoes and hiking clothes are the order of the day. You will no doubt stop many times to get your breath on your way up—and you will also make a stop for a drink of cool water from the spring located about halfway up the trail. There is no water near the quarry, so it would be a good plan to take along some canned fruit juice in your collecting bag. You will find it very refreshing if you happen to make the trip on a hot sunny day, as we did. My, how good our grapefruit juice tasted in that hot quarry! Eating lunch would have been quite impossible without it.

Many of these lithium pegmatites are highly interesting. There can occasionally be found openings—known as pockets or cavities—from which the more perfect gem crystals of the minerals occurring in this kind of rock are secured. Some pockets found at Maine localities, near by, have been of large sizes, such as that at the Bennett Quarry at Buckfield, one at Greenwood, one at Paris, and one found in 1933 at the Fisher Quarry at Topsham, which was 4 x 6 x 6 feet. Only small ones, however, not larger than a cubic foot, have been found at Black Mountain, where we were.

The majority of the pegmatite quar-

ries of Maine and elsewhere have been worked for feldspar, which is used in the pottery and glass industries; and for muscovite mica, used principally for insulation in the electrical industry. A few pegmatites, both of the common and lithium types, have been worked for their gem minerals alone, as for instance, Mt. Mica, Paris, Maine; Mt. Antero, Devil's Head, Crystal Peak, and Crystal Park, in Colorado; some of the localities in the Pala and Mesa Grande districts of California; and a few other places.

Well, here we are at the quarry at last. What shall we see first? Let us pass by the dumps of waste material, from which we will collect our specimens for the Museum later on, to examine the minerals in the quarry wall at the end of the open cut. This wall is about fifteen feet high above the quarry floor and extends for about sixty feet. Its general appearance is white, but here and there we see masses of a lavender-colored mineral and large clusters of pink crystals radiating outward from a common center in fans or sunbursts. In another place is a patch of green, here is a six-sided crystal of amber-colored mica. Some spots on the wall are yellow; others are black, brown, red, and blue. Mixed together with the whitish feldspar is a glassy mineral of milky or clear transparency, which in some places may show a smoky color. Here is a long, thin, tabular, pinkish-lavender crystal imbedded in the wall; there is a small, round, red crystal. Everywhere we look we see large crystals of varicolored minerals protruding from the wall, for all pegmatites are characterized by coarse crystallization of their minerals, the individual crystals reaching sometimes several feet in size. Truly the wall presents a spectacular sight, showing its patches in pink, blue, lavender, red, brown, black, and yellow on a white background.

Let us now search the dumps for our specimens, meanwhile learning about some of the minerals that we saw in the wall. Here is a chunk of the massive

lavender mineral in which we find imbedded one of the pink sunbursts. Looking closely, we see that the lavender mineral is made up of an aggregate of hexagonal scales of mica, which the mineralogist calls lepidolite, or lithium mica, because it contains lithium. With the fingernail we can pick off some small scales, a characteristic of all micas. The pink mineral showing the sunburst of crystals is tourmaline, another of the lithium-bearing minerals and the one for which this quarry is particularly noted by the mineral collector. Some of the pink crystals may grade off into a pale blue color—a characteristic of tourmaline, which often shows more than one color in the same crystal, or crystal mass. Another specimen shows a broken green crystal, with a triangular cross section imbedded in the white albite feldspar and glassy quartz. This crystal is also tourmaline, the only mineral characteristically showing this triangular cross section. The yellow spots in this specimen are uranophane, an alteration product of this blackish mineral noted in association with it and called uraninite, or pitchblende, the mineral from which Madame Curie first extracted radium. The uraninite of the pegmatites, however, is present in a very minor amount and cannot be used as a source of radium from such an occurrence. Due to its radioactivity, it has been used to tell the age of the pegmatite in which it has been found. This may give an age measured in millions of years, such as that from Portland, Connecticut, which gave an approximate age of 283 million years; and that from the McLearn Pegmatite near Richville Station, New York, which is much older and gave an age of 1,094 million years. The Black Mountain mineral that we are examining has not yet been tested for its age.

This black, tabular, metallic-looking crystal is columbite, a mineral that is finding a new war use in the steel industry. These long, narrow, pale, pinkish-lavender crystals are spodu-



MR. SEAMAN WITH SOME OF THE SPECIMENS FROM A LITHIUM PEGMATITE QUARRY ON BLACK MOUNTAIN, MAINE

menite, a lithium mineral that has been used as a source for that element. Excellent lilac-colored, clear, gem crystals of this monoclinic mineral have been found in the lithium pegmatites of San Diego County, California, but no gem material has been found in Black Mountain. The small, round, red crystal in this rock is a garnet, which sometimes occurs clear enough to be cut as a gem stone. This black crystal, with the adamantine, or oily, surface appearance, is cassiterite, the mineral from which we get our tin. Notice how heavy it is. It has not been found abundantly enough in most American pegmatites, however, to be used as an ore of tin. Many other beautiful and unusual minerals have been found in this type of rock. Thirty or more have been found at this locality alone, and as many as sixty different ones at other lithium pegmatite localities.

We must not pass by this pile of amber and brown-colored mica crys-

tals, which has been separated from the waste material. We take a fingernail and again split off very thin sheets. This property is used in the splitting of the mica for commercial use. We bend this thin sheet double, holding the two ends together, and when we release it, the mica flies back into place, showing its elastic property. The commercial mica of this quarry is muscovite. Here, in a section of the quarry not rich in lithium minerals, it occurs in crystals measuring as much as three inches across.

Before leaving, let us climb a little higher to another opening in the pegmatite, about a hundred feet above the first quarry. What do we find here? Near the top of the ledge of rock are colorful masses of heterosite, a phosphate mineral of a beautiful deep purple color, which often must be cleaned of an iron stain with oxalic acid to show it off to the best advantage. Small cavities in the albite of this

pegmatite are lined with albite crystals and glassy quartz crystals. Coating the quartz crystals and the sides of the cavities are tiny, elongated, amber-colored crystals of the rare eosphorite, much in demand by mineral collectors. These crystals in their matrix make a very pleasing appearance and another desirable specimen.

There are a number of rich lithium pegmatite localities not far away, where other beautiful minerals may be seen and collected. At Newry, Maine, tourmalines in many colors have been seen—blue, pink, green, and the bi-colored ones that show a pink interior and green exterior and are known as watermelon tourmalines. Some of these crystals have measured as much as four inches in diameter and a foot in length. One crystal found here in 1928 was green at one end, pink in the middle, and blue at the other end. It was six inches in diameter and three feet long. Excellent honey-colored microcline crystals, as well as the very rare, small, rose quartz crystals have been found at Newry; also excellent specimen crystals of green beryl, a few of the pale emerald variety of beryl, and a few fine aquamarine beryl crystals. Golden, gemmy beryl crystals have been found at Buckfield, together with a few pink beryls and large milky quartz crystals three feet long, which were in pockets. Greenwood has given up a number of groups of purple apatite crystals, although they were not of as fine quality as those found many years ago at Auburn, Maine. Some gem tourmalines of green color, and a few pink, gemmy, Morganite beryls have also been taken at Greenwood. In 1933 very beautiful, pale, bluish, etched, topaz gem crystals were found in a pocket of the Fisher Quarry.

Any of the lithium pegmatites, wherever they may occur, produce beautiful minerals to adorn the cabinet of any collector, as the ones described adorn the collection of the Carnegie Museum. It is to be regretted that at least one of these localities, especially

one where the gem crystals are found in the pockets, has not been preserved as a national monument or park, as a number of our other scenic spots are. The recently established Trumbull Park, created in 1938 by the city council of Trumbull, Connecticut, to preserve the old topaz and tungsten locality in that city, is a fine example of the success of such an effort to preserve an interesting locality.

MUSEUM SUMMER ACTIVITIES

THROUGH the courtesy of the Childs Frick Corporation, paleontology field research for the Carnegie Museum will again be carried on this summer in the West. J. LeRoy Kay, curator of vertebrate paleontology, and Reinhold L. Fricke, of the section of education of the Carnegie Museum, have already left for northern Montana, where they will collect for their own departments.

Mr. Kay plans first to visit briefly several of the areas from which collections were made last summer, to settle stratigraphic problems that have arisen since then. After this the party will work north from the vicinity of Missoula along the Intermontane Basins through the Flathead Indian Reservation district, swinging east around the northern end of the Lewis and Clark Mountains, and south along the eastern foot of the range, studying the Tertiary sediments that have been reported by members of the United States Geological Survey. During July the Museum field group will join a party from Princeton University to do some plane-table mapping of the Oligocene sediments. During the entire trip Mr. Fricke will also be collecting for educational purposes, with an emphasis on the smaller specimens of flora and fauna which he uses in making up the cases for nature study in the public schools.

ARCHITECTURE

Architecture is frozen music.

—GOETHE

PAINTING IN PITTSBURGH

The Carnegie Institute Presents Its Eleventh Summer Show

At the Carnegie Institute Pittsburghers have an opportunity to review the development and progress of local painting at least twice a year, in the winter and in the early summer. The second of these presentations for 1944 is now on view in Galleries E and F—the Exhibition of Paintings by Pittsburgh Artists, popularly known as the Summer Show, for which the dates are June 7 through July 16.

The chief differences between the two Pittsburgh exhibitions are in size and medium. The winter presentation is, of course, the annual exhibition of the Associated Artists of Pittsburgh, held at the Institute under the auspices of that Association. It includes several hundred items, but they are distributed

among the sections for painting, sculpture, water colors, prints, and crafts. On the other hand, the Summer Show is a smaller, more intimate exhibition, organized by invitation by the staff of the Department of Fine Arts, with the items in it limited to oil paintings. The exhibition this year is the eleventh such show presented by the Department since 1932, and includes sixty-one canvases by thirty-two artists. The two Pittsburgh exhibitions are, however, not entirely independent, for the staff makes its selections for the Summer Show from the artists represented in the larger exhibition, on the basis of both current and past contributions.

The artists included, who must be residents of Allegheny County, are in-



PROMENADE IN THE EVENING BY SAMUEL ROSENBERG



SUMMER HOTEL
By MARGARET EDMONDS JENSEN

vited to send two paintings each. Landscapes, town views, still lifes—especially flower pieces—portraits, abstractions, and one or two religious paintings are to be found in the exhibition. Pittsburgh has various aspects and moods, of which a good share are the somber, melancholy sort befitting the strong heart of a great industrial nation, but the almost consistently cheerful coloring, gay mood, and choice of subject matter in the canvases emphasize life here in its lighter vein, whether the pictorial reporting is factual or fanciful. Only one or two paintings show any reflection of the war, and then only by indirection.

Through the course of the eleven Summer Shows the work of ninety-five artists has been represented. Four names appear for the first time this year. They are Sarah A. Donald, Sister Mary Francis Irvin, Grace Huntley Pugh, and Mildred Floyd Schmertz. Some familiar names, which would ordinarily appear, are missing because the artists are in the Armed Services. Yet, on the whole, this selective exhibition comprehensively

surveys outstanding 1944 painting in Pittsburgh. As one of the general series, it takes its place in the amplification of that survey over a period of time, and demonstrates the latest developments in the progress of established painters, acquaints the visitor with the work of new artist community members, and shows the unfolding of recently discovered and promising talent.

The complete list of exhibitors in the present show is: Theodore Allmendinger, L. W. Blanchard, Gustave L. Brust, Jr., Clarence H. Carter, Marty Lewis Cornelius, Sarah A. Donald, Esther Topp Edmonds, C. Kermit Ewing, Frederick S. Franck, Everett Glasgow, Balcomb Greene, Sister Mary Francis Irvin, Margaret Edmonds Jensen, Paul Karlen, Robert L. Lepper, Norwood MacGilvary, Carolin McCreary, Louise Pershing, Milan Petrovits, Grace Huntley Pugh, Wilfred A. Readio, Samuel Rosenberg, Mildred Floyd Schmertz, Raymond S. Simboli, Rachel McClelland Sutton, Helen J. Topp, Frank A. Trapp, Russell G. Twiggs, Carl A. Walberg, Abe Weiner, Milton Weiss, and Lloyd F. Weninger.
D. E. G.

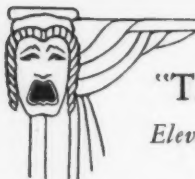
TECH COMMENCEMENTS

ON another page of this issue of the CARNEGIE MAGAZINE there appears the commencement address delivered at the exercises held in the outdoor theater on June 30 for the expedited engineers at the Carnegie Institute of Technology. Another commencement will be held this summer at Tech—on August 27 Dr. Charles Watkins, Director, Margaret Morrison Carnegie College, will give the address for the graduation exercises for the secretarial seniors.

STRENGTH OF NEW IDEAS

So many new ideas are at first strange and horrible though ultimately valuable that a very heavy responsibility rests upon those who would prevent their dissemination.

—J. B. S. HALDANE



"THE PLAY'S THE THING"

Eleven Years of Playgoing in the Little Theater

BY AUSTIN WRIGHT

Associate Professor of English, Carnegie Institute of Technology



ONE of the pleasures of a veteran playgoer is to review in memory the productions which he has seen in the past. Those of us who have been privileged to view year after year the performances in the Little

Theater at the Carnegie Institute of Technology have our memories of those particular performances filed, as it were, in a drawer of their own. They form a distinct category which is easily kept separate from our recollections of other productions seen in many theaters in many cities. It is my purpose in this article to look back upon the performances of the Department of Drama which I have seen and to comment in desultory fashion upon those which for one reason or another have remained most fresh in my memory.

My playgoing experience at Carnegie began in the autumn of 1927, but though I attended most of the plays presented in three of the five following academic years, I find that my memories of the performances are scattered and dim. I do recall from those years certain scenes in various excellent productions—notably, Andreieff's *The Life of Man*, Paul Claudel's *The Tidings Brought to Mary*, *King Lear* (with Donald Bellows Willson in the role of Lear), Beatrice Mayor's *The Pleasure Garden* (odd that this little-regarded play should be remembered when others far more famous and far greater have been forgotten), Hauptmann's *The Weavers* (a production

in which the turbulent crowd scenes were brilliantly handled), Tolstoi's *Fruits of Culture* (a freshman production, but excellent for all that), and *The Mikado*, the achievement of the combined Departments of Drama and Music. It seems best, however, to confine my remarks to the years from 1932 to 1943, a period concerning which my memory is presumably more trustworthy. The year just closed I shall disregard as being too near to be considered in quite the same retrospective manner as the earlier years.

Perhaps the best way to carry out such an objective as I have set is to comment in chronological order upon the productions which I remember most clearly and, in general, most favorably. That such a method involves the risk—indeed, the certainty—of unfairness is of course obvious. In addition to the fact that often my judgment will disagree with that of better critics, there is the difficulty that some of the best productions of the years covered I did not see—whether because of illness, indolence, or the burden of freshman themes. For example, for some forgotten reason I failed to see Shaw's *Major Barbara* in 1936 and Chodorov's *Kind Lady* in 1939—productions which, I am reminded by kind friends, I should always regret having missed. Moreover, with respect to comments upon individual performances, most of the Tech plays are double-cast and a few triple-cast, and since only within the last two years have I followed the practice of seeing all casts, I have seen in most productions only one set of student players. Then there is the fact that the memory is a trickster and that a performance which deserves to be

remembered may well have fled the mind whereas a lesser one seems in retrospect better than perhaps it actually was. Finally, there is the question of space. If such an article as this is to be written at all, it must be done with due regard to editorial limitations, and therefore I must not only make my comments brief but cut down ruthlessly the number of plays which I mention.

First on the list is the versatile Tom Taylor's *Ticket-of-Leave Man* (1932), the famous old Victorian melodrama, played straight for the most part on the Tech stage, and filled with smiles, tears, melodies, and corn. Bright in the memory remain Robert Gill peddling his "sheep's trotters" in the role of Green Jones, Helen Sisenwain as the roguish Sam Willoughby, and Jane Witmer as that personification of innocence in distress, May Edwards. Even more memorable, however, was that thrilling episode when, in the face of peril, a ragged derelict in the Bridge-water Arms leaped to his feet, swept aside his disguise, and cried, "I'm Hawkshaw, the detective!" Alas, life holds few such moments as that.

To the year 1933 belongs Anton Chekhov's *The Cherry Orchard*. This was my introduction to Chekhov in the actual theater as opposed to the study, and on the night that I saw this Tech production the Russian master won a devoted follower. The antithesis of the "well-made" play, *The Cherry Orchard* is life itself rather than make-believe, and to see it skilfully produced is to perceive as if by revelation the pity and futility of the existence of the whole decaying Russian aristocracy.

In the spring of 1934 came what possibly was the greatest achievement of the Department of Drama during my time—the production of Parts I and II of Shakespeare's *King Henry IV*. I am grateful for the opportunity of seeing these plays in performance. Certainly two of the greatest in the Shakespeare canon, they are nevertheless seldom produced, and at Tech they were done magnificently. Franklin Heller was

born to play Falstaff, William Beal made a splendid King Henry, and the gambols of Falstaff's madcap crew—Bardolph, Pistol, Mistress Quickly, and the rest—made the spectator recognize more clearly than ever Shakespeare's pre-eminence as a comic artist.

Little Theater audiences were treated in 1935 to a colorful production of *Shakuntala*, a masterpiece of Oriental drama by a Hindu writer known as Kalidasa. In its freshness, its poetic atmosphere, and its rich Oriental humor, this ancient classic is reminiscent of one of the most successful productions of the year just closed—the Chinese play *Lute Song*. I remember vividly George Lloyd as King Dushyanta and the late Milton Goldbloom as the clown Madhavya.

In 1936 came another Chekhov play, *The Three Sisters*, which was performed with perhaps even greater skill and sensitiveness than *The Cherry Orchard* had been. It is impossible, however, to convince one who dislikes Chekhov of the peculiar beauty and poignancy of this play, in which little happens—except heartbreak. The Tech production, as I remember it, does not suffer by comparison with the recent Broadway revival in which the Misses Katharine Cornell, Judith Anderson, and Ruth Gordon were starred. Outstanding in my memory is Mildred Barrick as Olga, and I also recall with pleasure the excellent sets and the brief, lovely snatches of music.

Street Scene (1937), by Elmer Rice, was played with zest by a large cast against an amazingly realistic setting representing a brownstone apartment building in a tenement district of New York. Though not an immortal play, this is surely one of the most significant and provocative dramatic works of our time, and as produced by the Department of Drama it had as forceful an impact as even Mr. Rice could have desired. The characters were presented with realism and sympathetic understanding. The weak but intensely pathetic and human Anna Maurrant,

the vicious Jones family, the sunny and kind-hearted Filippo Fiorentino, the fresh, eager, appealing Rose Maurrant, the sensitive, unhappy Sam Kaplan—these and a score of others came alive upon the stage that night. I remember especially Helen Thomas as Rose, Lottie Phillips as a rip-roaring Mae Jones, the scene in which Frank Maurrant kills his wife and her lover, and the moving episode in which Rose faces her broken, remorseful father after his capture.

To the same year belongs a play which I had never heard of before I saw it produced at Tech and which I have never heard of since—Charles Divine's *Strangers at Home*, a very ordinary little comedy, without doubt, but one which fully deserves to be included here because it meets the test of having remained extremely fresh in my memory. It concerns the experiences of a middle-class family which embarks on the perilous experiment of giving shelter to tourists—those peripatetic creatures which in these days of gasoline rationing have all but become extinct. Surely Jane Van Duser in the role of Mrs. Crosby and Margaret Herd in that of Aunt Phoebe made as comic a pair as have ever appeared on the stage of the Little Theater, and John MacKercher's inoffensive Mr. Crosby was a quiet masterpiece.

The only production from 1938 of which space permits mention is that of J. B. Priestley's *Time and the Conways*. I confess to a weakness for plays in which tricks are played with time, and in this work Priestley engineers with startling effect a shift from twenty years ago to the present and then back to the past again. In this way members of the Conway family are shown as they actually became, in grim contrast to the flattering picture of the future which they had drawn years before when life lay ahead of them full of promise and hope. I remember well Helen Lubell as Mrs. Conway, Chester Cooper as the quiet, ineffective, but lovable Alan, and Constance Robinson as the little girl,

Carol, who was destined to an early death.

Berkeley Square (1939), by John L. Balderston, is similar to *Time and the Conways* in that it involves a return on the part of the hero to the London of the eighteenth century. Here he falls in love with a girl to whom he eventually confesses that he is an interloper from a later age and that hence their love is destined never to be fulfilled—at least on earth. I remember especially the final scene when Peter Standish, back now in his own generation, reads through his tears the inscription he has just copied from the tomb of Helen Pettigrew, the letters cut deep into the dead stone so that they will still be legible to her lover a hundred and fifty years later.

A few words must be devoted to a comic gem entitled *The Happy Journey from Trenton to Camden* (1940). Written by Thornton Wilder, this one-act is marked by the same absence of scenery and stage properties as the more famous *Our Town*, and in its fashion it is just as charming. Every member of the small cast was nearly perfect, but I remember best the antics of Robert Challener in a small role which was the first, I believe, of his many successful comic parts on the Tech stage.

In 1942 came Shaw's *Heartbreak House* and three one-acts from Noel Coward's *Tonight at 8:30*, one of which—*Family Album*—certainly belongs in this list. The Shaw play, long and very difficult, was expertly produced; among the players, I remember best Doris Bloomberg as Hesione Hushabye and Elise Cox as Lady Utterwood. As for *Family Album*, I liked everything about it—the gay, tinkling, haunting music, the amusing situation, the lovely costumes and stage setting, the sardonic humor, the flashes of insight into human nature.

Finally, in 1943 the revival of Anna Cora Mowatt's *Fashion* seemed to me a complete triumph. Though sometimes dragged awkwardly into the action, the songs were the most delightful element in this production, and in particular

Louis Edmonds' devastating rendition of a little number having to do with poor orphaned Nellie was something never to be forgotten.

These, then, are the productions which I happen to recall with the greatest clarity—and for the most part with the greatest pleasure. Perhaps it is not out of order to attempt now a list of what I consider the poorest plays which the Department of Drama has produced within my experience. Be it observed, however, that in this paragraph I am attacking not the *productions* but only the *plays* themselves. Many a poor play has been given a loving and competent performance in the Little Theater—and indeed such a play is sometimes as useful a dramatic vehicle for students of the theater as a good one. Prayerfully reiterating the warning, then, that I am here referring only to plays and not to productions, I shall proceed—proving, incidentally, that I do not belong to the category of the angels in Pope's famous line about those who "fear to tread." Certainly a leading candidate for honors in this competition is *When We are Married* (1941), by J. B. Priestley. One finds it difficult to believe that the author of this dreary farce is the same man who wrote *Time and the Conways* and *Dangerous Corner*, not to mention that distinguished novel *The Good Companions*. Then there is *Rich Man, Poor Man* (1935), by Warren P. Munsell, Jr., an ambitious but misguided effort to present dramatically the career of Jonathan Swift. *Brittle Heaven* (1936), by Vincent York and Frederick Pohl, a play about Emily Dickinson, struck me as unconvincing and dull, and the same may be said of Dan Totheroh's *Distant Drums* (1933). For that matter, Mr. Totheroh's *Moor Born* (1943) perhaps deserves mention here too. Cyril Campion's *Ladies in Waiting* (first produced in 1935 and repeated, because of its all-feminine cast, in 1944) is a poor play, and so is *Nine Pine Street* (1942), by John Cotton and Carlton Miles. Finally, summoning my courage, I must include,

if I am to be perfectly frank, two plays highly regarded by many critics—*Hotel Universe* (hoots of derision from admirers of Philip Barry!), which was produced in 1937, and *The House of Connelly* (muttered threats from admirers of Paul Green!), dating from 1940.

Such are the humble judgments of one habitué of the Little Theater who has spent many a pleasant and memorable evening as a guest of the Department of Drama. It would be very interesting to learn how far the judgments of other gaffers who are my contemporaries coincide with or depart from my own.

DR. MEHL RETURNS

DR. ROBERT F. MEHL, Director of the Metals Research Laboratory at the Carnegie Institute of Technology, has returned from Brazil, where he gave a series of lectures to industrialists in the city of Sao Paulo, lectured to a group of students and young engineers at the Escola Politecnica of the University of Sao Paulo, and acted as consultant for Brazilian industries. While he was away, Dr. Mehl was the recipient of many honors, among which is the forthcoming publication in Portuguese of the lectures that he delivered on the metallurgy of iron and steel. He was also presented with a gold medal by the Associacao Brasileira de Metais and with an honorary doctor's degree by the University of Sao Paulo. This is the first honorary doctor's degree to be awarded to any foreigner by this university and also the first honorary degree to be awarded to any scientist or engineer by them.

A later issue of the CARNEGIE MAGAZINE will contain an account of Dr. Mehl's trip.

THE MASTERY OF GENIUS

All great geniuses have encountered the critics of their day. How Shakespeare violated the unities! and didn't Napoleon win battles he should have lost?

—ANDREW CARNEGIE

THE ESSENTIAL NONENTITY

BY CAROLINE A. HEPPENSTALL

Assistant, Section of Mammalogy, Carnegie Museum



THE WHITE-FOOTED MOUSE

IN a Commonwealth noted for its abundance of big game and furbearing mammals, the small mammals of the fields and forests attract little or no attention. Upon first thought, they have nothing to offer—their coats are not used as fur, their flesh is not used for food, and they are scarcely large enough to attract attention as serious pests. No bounty is offered for their capture, and when they do not become overabundant they are completely ignored. If we probe into the matter, however, an interesting picture in interrelationships begins to reveal itself. These relationships are thinly concealed, like the faces in a child's picture puzzle which bears the caption, "See how many faces you can find concealed in this drawing." Everything in nature is so cleverly interwoven that it is not possible to regulate or exterminate a single animal or plant without starting a train of events almost impossible to control.

The White-footed Mouse, or Deer Mouse, known to science as *Peromyscus*, is one of the most interesting and common of the tiny mammals. This little creature, scarcely eight inches from the tip of his sharp nose to the end of his long, nervous tail, is clothed in an overcoat of rich brown fur, with vest and underwear of snowy white, and four white stockings. Sensitive ears crown the narrow pointed face, in which the bright, beady eyes are prominent and deerlike in quality. The common name, "Deer Mouse," needs no explanation once you have seen his eyes! His long, graceful whiskers are one of his most attractive features.

During the day the Deer Mouse usually stays in his nest or burrow, but at dusk the woods and meadows literally come to life as he darts about in search of food. At the same time, the larger mammals begin to move, and the bloodthirsty carnivores—weasels, mink, martens, skunks, foxes, and so

forth—start their incessant stalking. The dainty little Deer Mouse is a delicate morsel for each and every one of them, and so long as mice are abundant, the farmer's poultry is relatively safe from four-legged marauders. Then, too, many species of owls prey upon mice, and only a propensity for reproducing itself rapidly saves *Peromyscus* from speedy extermination. The fur-bearers could not long survive if the supply of mice were cut off permanently, for this food is as essential to the well-being of these flesh-eating mammals as is salt to the human race. Thus the relationship between the fur-bearers and the wood mice can easily be seen, but there is more to the picture than that.

The White-footed Mouse is a rodent, of course, and feeds largely upon seeds, grain, small nuts, and dry vegetation. As he scampers back to his burrow with his mouth full, it is inevitable that seeds are dropped, and just as inevitably, some of the seeds take root and grow. In this way he does his part in the continuous reseeded of forests and fields. His burrows, often made by other small animals and utilized by him, keep the soil loose and porous, especially around the roots of forest giants. This enables the water from melting snow and ice to drain off rapidly during spring thaws.

We may choose to think of *Peromyscus* as a nonentity, but it must be emphasized, he is an essential non-entity. We are accustomed to think of our fur-bearers as a valuable source of income to man, so we must acknowledge that their food is valuable in direct proportion to their economic worth. Our forests supply food and shelter for all types of big game, and *Peromyscus* lends a helping hand here, albeit a tiny and scarcely noticeable one. Quite aside from his economic value, however, the Deer Mouse is an interesting and pretty little animal, as clean as our house mouse appears to be dirty, and well worth an hour spent watching his antics, in the moonlight at the edge of a woods.

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